RELATION OF WHEAT SPECIES AND GENOMES IN AMINO-ACID COMPOSITION

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As regards wheat varieties constituting a natural ploid series the issue of analysing diploid, tetraploid and hexaploid species is topical since ancient varieties can play significant roles in contemporary agriculture as well. Seventeen winter wheat varieties, out of which two diploid varieties carried genome A, nine tetraploid types had genomes AB, two varieties had genomes AG and four varieties were hexaploid ones with genomes ABD, were analysed from the point of view of their amino acid compositions. The amino acid contents of Asp, Thr, Ser, Glu, Gly, Ala, Cys, Val, Met, Ile, Leu, Tyr, Phe, His, Lys, Arg, Pro (a total of 17) were determined in thoose varieties mentioned above.

It has been found that the amino acid contents of the grains genotype AA *Triticum boeticum* and *T. monococcum* exceeded the amino acid content of *T. aestivum* in respect of all the amino acids analysed in this experiment, with Glu being the only exception. In comparison with the *aestivum* wheat, essential amino acid contents showed a similarly favourable picture in the diploidic varieties mentioned. As regards type AB tetraploid varieties excesses of 13-16%, in comparison to the *aestivum* wheat, were found in essential amino acid contents. The amounts of non-essential amino acids in all the winter wheat varieties showed decreases irrespective of the ploid level.

What concerns the total amino acid content, all the winter wheat varieties with the exception of *T. monococcum* (A), *T. dicoccoides* (AB) and *T. dicoccum* (AB) contained less amino acid than the *aestivum* wheat. All the monocarbonic acid and aromatic as well as heterocyclic amino acid contents of the wildly growing *Triticum boeticum* (A) and the grown *Triticum monococcum* (A) (with polaric, apolaric R groups, diamino radicles) exceeded the same contents of *T. aestivum*. The value of the monoamino-dicarbonic acid, however, was lower in our experiment.